



New horizons in trans and non-binary health care: Bridging identity affirmation with chronicity management in sexual and reproductive services

Nik M. Lampe^{a,b}  and Alexandra C. H. Nowakowski^c 

^aDepartment of Sociology/Women's and Gender Studies Program, University of South Carolina, Columbia, South Carolina, USA; ^bSouth Carolina SmartState Center for Healthcare Quality, Arnold School of Public Health, University of South Carolina, Columbia, South Carolina; ^cDepartment of Geriatrics/Department of Behavioral Sciences and Social Medicine, Florida State University College of Medicine, Orlando Regional Campus, Orlando, Florida, USA

ABSTRACT

Background: Transgender and non-binary people experience erasure, stigma, and discrimination in sexual and reproductive health care. Previous research shows worse sexual and reproductive health outcomes and higher rates of chronicity for trans and non-binary populations as compared to cisgender populations. Historically such outcomes have been framed as separate issues.

Aims: To describe methodological approaches for exploring gaps in the sexual and reproductive health care of transgender and non-binary people, and explore intersections between chronic disease management and gender-affirming care.

Methods: We critically reviewed methods for studying sexual and reproductive care and chronic condition management among trans and non-binary populations. We focus on two themes: unmet needs and response strategies.

Results: We summarize findings and opportunities in existing research about service needs in trans and non-binary care. Key barriers to effective sexual and reproductive care for trans and non-binary people include persistent medical myths about trans people and bodies, siloization of different domains of health and associated services, lack of research on how chronic disease treatments interact with transition related care, and lack of active communication between providers and patients about individual care needs and goals.

Discussion: We recommend methodologically diverse research with trans and non-binary populations capturing: (1) erasure, stigma, and discrimination in sexual and reproductive health care settings; (2) individual, interpersonal, and structural factors catalyzing chronicity; and (3) the impact of sexual and reproductive health disparities on chronic disease outcomes.

KEYWORDS



Chronicity; health care; non-binary; sexual and reproductive health; transgender

Introduction

Research on sexual and reproductive health care among transgender and non-binary populations has increasingly expanded throughout the interdisciplinary health sciences. Implications of these studies suggest transgender and non-binary people experience erasure, stigma, and discrimination in health care settings (Johnson et al., 2020; Roberts & Fantz, 2014). Consequently, previous research shows worse sexual and reproductive health outcomes (Imborek et al., 2017) and significant disparities in health care access and utilization for trans and non-binary populations across Western health care systems (Johnson et al., 2020). Previous research also notes higher

rates of chronicity for transgender populations (Dragon et al., 2017). Utilizing US Medicare Fee-for-Service (FFS) claims data, Dragon and colleagues (2017) examine the chronic disease burden between transgender Medicare beneficiaries (TMBs) and cisgender Medicare beneficiaries (CMBs). Dragon and colleagues (2017) determine that TMBs have higher rates of documented chronic conditions regardless of Medicare status compared to CMBs, with young and midlife TMBs already displaying symptoms of chronic disease burden.

Additionally, research about access to care for cis women as compared to cis men offers insights into sexism in health care that are relevant to trans people who are liable to be read as women

CONTACT Nik M. Lampe  lampen@email.sc.edu  Department of Sociology/Women's and Gender Studies Program, University of South Carolina, 911 Pickens St., Sloan College, Columbia, SC 29208-0001, USA.

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(or as "not-men"), regardless of their gender or assigned sex. For example, studies reveal how cisgender women are less likely to be believed by providers when reporting chronic illness and pain symptoms compared to cisgender men (Samulowitz et al., 2018). Although research continues to close gaps in understanding unique care needs, barriers, and challenges among transgender and non-binary populations, historically, such outcomes have been framed as separate issues. Integrating these threads in research and clinical education can transform sexual and reproductive health care for transgender and non-binary people with chronic conditions.

In this review, we examine methods for exploring broad gaps in transgender and non-binary people's sexual and reproductive health care that are related to how management for chronic conditions may intersect with sexual, reproductive, and transition care therapies. We describe methodological approaches for exploring gaps in the sexual and reproductive health care of trans and non-binary people, while exploring intersections between chronic condition management and gender-affirming care. Further, we critically review methods for studying sexual and reproductive care and chronic condition management among transgender and non-binary populations, while focusing on two major themes in the literature: unmet needs and response strategies. As such, this review will complement these emerging areas of study, while creating opportunities to fill in existing gaps at these intersections of scholarship.

Health outcomes in context

Trans and non-binary people often experience worse health outcomes across a variety of indicators compared to their cisgender peers (Downing & Przedworski, 2018). The intersectional ecology model for LGBTQIA+ community health (see Mink et al., 2014) explains the underlying social and economic inequalities that give rise to these disparities in outcomes for queer, trans, and intersex populations as an aggregate group. These factors include poverty, housing insecurity, domestic abuse, sexual violence, employment discrimination, and direct discrimination in a

variety of health services. This model shows how strategies that people in LGBTQIA+ communities use to cope with pervasive queerphobia, transphobia, and resultant discrimination—such as smoking cigarettes, drinking alcohol, and using street drugs—may themselves introduce unique health risks. Yet these data collection efforts often treat sex and gender minorities as part of a larger cluster with queer (and especially gay and lesbian rather than bisexual and asexual) people (Nowakowski et al., 2016). Consequently, many intersectionally marginalized people within trans and non-binary communities—such as people of Indigenous heritage—remain excluded from both models and data (Parker et al., 2017).

Even trans and non-binary people with the same overall health status as their cisgender peers of otherwise comparable characteristics tend to report significantly lower health related quality-of-life on a variety of different rating scales (Morris & Galupo, 2019). Likewise, people with chronic conditions tend to report worse health-related quality of life compared to their peers without chronic conditions even if they otherwise experience social and economic privilege. People with chronic conditions are also persistently desexualized (Nowakowski, 2016). The resulting minimization of sexual and reproductive health care needs among chronic care patients produce unequal outcomes along highly gendered lines (Fallon, 2016). And because comparatively few specialized learning resources and clinical services supporting the sexual and reproductive health of trans and non-binary patients exist (see Nowakowski, Sumerau, & Lampe, 2020), trans and non-binary people with chronic conditions face even more difficult challenges in nurturing those specific aspects of health-related quality of life that center their sexual and reproductive well-being.

These persistent disparities in the health of trans and non-binary people across multiple domains of well-being are directly actionable in both scientific research and clinical practice. In this review, we identify several key gaps in sexual and reproductive health care for trans and non-binary people living with chronic conditions and recommend strategies for bridging these gaps and improving outcomes.

Current gaps in health care

Existing health services research identifies widespread challenges and unmet needs for trans and non-binary patients (Sumerau & Mathers, 2019). Sex and gender minority¹ health care seekers generally experience more difficulty finding providers who offer quality health services and feel welcomed by ones who do offer said services (Roberts & Fantz, 2014). Challenges to affirmation in settings include misgendering, deadnaming, gendered décor, segregated restrooms, lack of training, and poorly designed intake forms (Lampe, 2019). Ability to pay or lack of insurance coverage also constitutes a frequent barrier to quality and consistent health care for trans and non-binary people in such places like the United States (US) where there is no universal health care system (Lerner & Robles, 2017). This owes to both general economic insecurity and precarity in trans and non-binary communities, and the specific intersection between gender minority status and other determinants of marginalization (Johnson et al., 2020). Some patients do persist in translating their broadly needed survival skills into innovation in seeking medical care in the absence of universal health care systems. Even those patients who do secure insurance benefits are often tempered by poor plan coverage for available health services (Padula & Baker, 2017). In the case of transition-related services, these challenges are compounded by stringent barriers to qualifying for such interventions and then further hurdles to procuring carrier payment for those in countries with no universal health care system (Gorton, 2007).

These challenges also intersect with more general barriers related to sexual and reproductive services. Obtaining contraception for people assigned female at birth can be difficult without receiving invasive and potentially traumatic examinations (Imborek et al., 2017). And for trans and non-binary people assigned male at birth, medical contraception options remain limited (Mehringer & Dowshen, 2019). Chronic illness can facilitate such access, though this indicates a degree of eugenic thinking (i.e., an assumption of deficiency among chronically ill people) at a systems level (Saarikoski, 1987).

Specifically, people with chronic conditions might find it easier to access sterilization because of the influence of eugenics logic in Western medicine. Insurance coverage for fertility preservation and assistance is often limited for trans and non-binary people in countries with no universal health care system and many people are not able to afford such services (Riggs & Bartholomaeus, 2018), even though such methods may offer more realistic pathways to parenthood for people with chronic conditions than sexual conception or adoption. Some providers engage in positive ways for their trans and non-binary adult patients regarding fertility preservation, while other providers act as gatekeepers or have normative views about reproductive experiences (Bartholomaeus & Riggs, 2020).

Services for adolescents are also constrained by issues of consent and assent. Some parents of transgender and non-binary adolescents are supportive of their child's reproductive decisions, while others try to control their child's reproductive rights such as fertility preservation (Riggs & Bartholomaeus, 2020). This poses unique problems for trans and non-binary youth because such patients may get kicked out of their homes (Ream & Forge, 2014) or have lower levels of connectedness with parents (Taliaferro et al., 2019) which influences the use of health services. Because of these precarities, younger trans and non-binary patients may also be more likely to need specialized reproductive care services associated with chronic conditions linked to chronic stress. Sexual and reproductive endocrinology for people with Type II diabetes would be one example (Bockting et al., 2016). Chronic sexual pain also offers an excellent example for illuminating both widespread health disparities impacting trans and non-binary patients, and limitations in the current clinical management of those conditions (van Trotsenburg, 2009).

Examples from sexual and reproductive care illuminate limitations on the knowledge and practice of sex and gender-affirming care specific to individualized patient biographies. Chronicity follows both general patterns and unique trajectories even among people with the same base conditions (Dragon et al., 2017). Even patients with similar overall circumstances within specific

disease clusters may experience their conditions very differently on a daily basis (Feldman & Goldberg, 2006). Patient needs and values may also differ within and across these groups (Dewey, 2008). Such differences occur with respect to both conditions themselves and sex and gender identities that intersect with them (dickey, 2017).

Current gaps in sexual and reproductive care

With these current gaps in mind, we now offer brief overviews of currently identified gaps in sexual and reproductive care for trans and non-binary people living with chronic conditions. Following the general organization of US health services, this discussion addresses physical, mental, and transition-related health care as discrete but interrelated domains. We note key gaps in services both generally for overall sexual and reproductive health management and specifically for any chronic care needs patients may have.

Physical health care

Gaps in physical health care services encompass instrumental and abstract dimensions of trans and non-binary patient experience. Certain types of physical sexual health services may prove more useful for trans and non-binary patients with chronic conditions. These may include dialogue with providers about topics like safe use of sexual aids such as strap-on dildoes or preventing chafing if wearing a chest binder during intercourse (Peitzmeier et al., 2017). Patients with autoimmune conditions that may predispose them to rashes or infections may find such discussions particularly impactful. Services especially helpful for trans and non-binary patients may also include dialogue about sex-adjacent health issues posing an elevated risk for these communities. These include transmission of HIV and Hepatitis C associated with injection drug use, and the possibility of using pre-exposure prophylaxis (PrEP) and post-exposure prophylaxis (PEP) as well as appropriate barrier methods for protection (Williamson, 2010). For any conditions involving immunosuppression and/or frailty, these dialogues may be especially important.

Conversely, such discussions in some cases are *less* likely to include prevention methods for other sexually transmitted infections (STIs) or unwanted pregnancy, as these issues are statistically often less common among trans patients (Reback et al., 2018). In other cases, trans patients are *as* likely to experience pregnancy and *more* likely to experience STIs, as their cis peers (Veale et al., 2016). Future studies should be explored in different geographic areas to fill in such gaps.

Likewise, specialized reproductive care services are only beginning to develop for trans and non-binary patients. Trans and non-binary patients assigned female at birth must still undergo traditional PAP smear tests, which are very invasive and often uncomfortable, if they wish to use any type of hormonal contraception (Feldman & Safer, 2009). For patients with any type of underlying health conditions causing vaginismus, limited lubrication, and/or scarring from persistent infections, PAP smears may be especially problematic. Trans, non-binary, and cis patients who were assigned male at birth currently have few options except for consistent condom use, vasectomy, and/or outright removal of the external genitalia for assuring sex will not result in conception (Hodax et al., 2020). For patients with conditions that preclude receiving surgical anesthesia or pose concerns about blood clotting problems, this becomes a greater barrier to effective care. Abortion access also remains limited for patients in countries without a universal health care system. Although unwanted pregnancy is less common for trans and non-binary people than for their cis peers, these limitations in access may still impact trans and non-binary patients disproportionately because of intersecting barriers to care (Hoffkling et al., 2017). As some conditions may preclude taking hormonal birth control and/or using interventional methods like intra-uterine devices or vasectomy, abortion access considerations loom larger for trans and non-binary people with chronic diseases.

Mental health care

Mental health care in sexual and reproductive content areas poses different but interrelated

barriers for trans and non-binary patients. In sexual health care planning and delivery, trans and non-binary patients already contend with ample stereotyping and misrepresentation of what their lives actually look like (Nowakowski, Sumerau, & Lampe, 2020). This may include assumptions that trans and non-binary people only have sex via certain methods, like using toys or providing oral stimulation (Redfern & Sinclair, 2014). Patients with chronic conditions must thus contend with these broad stereotypes that people with chronic conditions are not sexual beings (Nowakowski, 2019). Trans and non-binary patients with chronic conditions face challenges related to cis-normative or transphobic interactions with providers (Hagen & Galupo, 2014), which can negatively impact their mental health by increasing dysphoria about body and identity (Bauer et al., 2009). For patients with underlying mental health conditions such as depression and anxiety, this lack of provider education can limit willingness to seek care as well as openness in clinical interaction (Sperber et al., 2005). Both congenital and acquired mental health conditions can produce these intersectional barriers to effective care (Nuttbrock et al., 2013). So, currently available sexual health services may limit the ability for trans and non-binary people to cope effectively with incorporating their histories into their care.

Transition-related health care

Specialized sexual and reproductive services may be required for trans and non-binary individuals taking hormones for transition purposes. This may include tailored assessments of risk for cancers, blood clots, and other adverse outcomes associated with the use of certain hormones (Streed et al., 2017). Such services may also include conscious monitoring and adjustment of hormone dosing to achieve sexual and reproductive health outcomes, such as increased vaginal lubrication among trans women who have undergone genital surgery (Sanchez et al., 2009). Additionally, conditions such as vaginismus and limited lubrication can be linked to long-term testosterone use (Mahfouda et al., 2019). Adapting services to meet these needs requires a detailed understanding of diversity and variability

in transition trajectories and goals, which overall remains limited among providers (Sumerau & Mathers, 2019). Introducing chronicity into care planning adds additional layers of complexity in assessing potential pitfalls like drug interaction and safety concerns. Hormone therapy can also strongly impact daily affect in any patient, irrespective of mental health status (Unger, 2016). For people with mood disorders, these impacts can be severe and even life-threatening (Carmel & Erickson-Schroth, 2016). Because mood disorders are also more commonly diagnosed in trans and non-binary patients than in the general US population, these concerns become more pressing in specialized care planning (Wilson et al., 2015). However, emerging research suggests potential, positive affects on mood from transitioning for some trans and non-binary patients, which can alleviate long-term mental health challenges across the life course (Colton Meier et al., 2011).

Provider understanding of how transition goals for patients may differ—both broadly across sexual and reproductive care and specifically across individuals within trans and non-binary populations—also remains limited (Nambiar et al., 2017). Clinicians are presently less equipped to respond to transition goals that do not follow the medical model of transgender identity (Johnson, 2015). Providers also remain ill-equipped to provide specialized transition support in sexual and reproductive service settings for trans and non-binary people with chronic conditions that introduce additional nuances in care planning.

Addressing current gaps in care

Addressing these gaps in care requires better didactic training of providers, richer dialogue between providers, and fuller data for providers on what patients want and need. Clinical education already has multiple evidence-based opportunities for improving sexual and reproductive care practices for trans and non-binary patients (Nowakowski & Phillips, 2021). However, the science behind these recommendations has yet to advance substantially beyond general population health. Content on negotiating intersecting challenges from complex chronic conditions, whether beyond or within the scope of any transition-

related services desired by patients, remains limited.

Likewise, provider dialogue on care delivery and quality improvement for trans and non-binary patients rarely move beyond very general considerations about communicating basic respect and not willfully misgendering people (Reisner et al., 2016). When it does—usually among providers who specialize at least somewhat in services for such patients already—this dialogue usually focuses specifically on transition-related services themselves without contextualization of patients' health goals and needs. This owes partly to widespread misconceptions about what trans and non-binary patients actually need from providers, and partly to lack of longitudinal data on how to respond effectively in more, complex cases (shuster, 2019).

When it comes to basic, quality care for trans and non-binary patients—calling people by their names and listening to their stories—providers are learning, if not as quickly as we might like. These core tenets of person-centered medicine are relatively easy to cover with existing research guidance. Across these content areas, data on persistent challenges and needed improvements in sexual and reproductive health care have come mainly from patient narratives in trans and non-binary communities (Lampe, 2019). The nuances named above—and their precise applications in chronic disease management—will take far more work. To succeed, these efforts must begin with more intricate data collected using more sophisticated and varied inquiry approaches.

Future approaches

In the remainder of this review, we outline our main recommendations for bridging important gaps in research data and evidence-based best practices guidance in sexual and reproductive care for trans and non-binary patients with chronic conditions. Although research data and evidence-based guidance on best sexual and reproductive care practices among such populations are very limited at present, the literature highlights unique opportunities for growth in this area of scholarship while centering the voices of trans and non-binary populations with chronic

conditions (Nowakowski, Sumerau, & Lampe, 2020). As such, we recommend methodologically diverse research and intervention projects with trans and non-binary populations in the following ways: provider education, patient experiences, navigating care systems, and goal-directed services. It is important to note that although these recommendations are categorized into individual sections, they often overlap in research, intervention projects, and care settings for trans and non-binary patients.

Provider education

Researchers have long noted the lack of provider education on trans and non-binary health care needs as a whole. These health care needs include basic minimum standard of services such as honoring a patient's chosen name and pronouns, providing sex and gender diverse intake forms, and more broadly understanding the various social factors trans and non-binary people face in contemporary society and how these social factors might influence one's health and well-being (Johnson et al., 2020). Medical education has incorporated sex and gender diversity into curricula in recent years, however, medical schools have historically failed to educate their students on transgender and non-binary people's health and health care needs (Nowakowski & Philips, 2021). Whether clinicians are experts in providing care or understand the basics of providing care to trans and non-binary patients, possessing a baseline of competency in gender-affirming health care plays an influential role in the health care experiences of trans and non-binary populations (Lampe, Carter, & Sumerau, 2019). As such, researchers demonstrate how providers can be champions for their trans and non-binary patients by simply listening to their patients when they discuss their distinct care needs, background, and symptoms. Much like their cisgender peers, trans and non-binary people have an array of health care needs and experiences, some related to gender-specific health services and some not (Nowakowski et al., 2019). Providers must actively listen to their trans and non-binary patients and not assume what their care needs are.

Trans and non-binary patients often face variations in health care disparities concerning provider training and competency (Lampe, 2019). For example, medical authorities often assume a patient's gender identity conforms to a binary gender system in relation to their assigned sex (i.e., a cisgender man or cisgender woman) and then face uncertainty in the medical decision-making process when patients disclose their gender identity as transgender and/or non-binary (Shuster, 2019). Consequently, providers often become barriers for trans and non-binary patients by mobilizing gatekeeping practices (Sumerau & Mathers, 2019) that prevent or delay access to health services trans and non-binary people need (i.e., hormone therapies, gender affirmation surgeries, etc.) to maintain a high quality of life or basic wellness (Pearce, 2018). These challenges ultimately lead to disparities in health outcomes among trans and non-binary populations (Miller & Grollman, 2015).

Providers often lack specialized education on sexual and reproductive issues. Researchers have emphasized the critical need for adequate care in the field of sexual and reproductive medicine for trans and non-binary patients. Expanding gender-diverse research on reproductive experiences, for example, Hines and colleagues (2018) from the Trans Pregnancy Project reported many trans participants feeling misinformed on the effects of testosterone and how taking testosterone does not necessarily cause or maintain infertility. Further, providers often have little knowledge or information on how hormones do or do not affect the fertility and bodies of trans and non-binary people. This is also the case with providers failing to have conversations with their trans and non-binary patients on fertility preservation before hormone assessments and therapies (Hines et al., 2018). The lack of specialized knowledge at the intersections of sexual, reproductive, and trans-specific health services among providers often results in potentially dangerous situations for trans and non-binary people managing chronic conditions.

Consequently, trans and non-binary patients managing chronic conditions are often in a particularly vulnerable position when navigating situations with providers lacking knowledge in

gender-affirming care, despite the resiliency people living with chronic conditions must acquire to self-advocate for themselves in health care settings (Nowakowski, 2019). Despite the growing efforts to incorporate trans and non-binary populations into scientific practice and medicine more broadly, providers often struggle to understand trans and non-binary patients managing chronic conditions concerning their sexual and reproductive bodies and health care needs (Nowakowski, Sumerau, & Lampe, 2020). More often than not, trans and non-binary people managing chronic conditions often must rely on other members in trans and non-binary communities or peers with similar chronic conditions for guidance in fulfilling their health care needs and goals (Lampe, 2019). These observations suggest an opportunity for providers to gain knowledge in gender-affirming sexual and reproductive care for trans and non-binary people.

Patient experiences

One consequence of lacking provider education on trans and non-binary health care needs is the limited attention to convergence and divergence in patient experience for people who identify as trans and/or non-binary. Simply put, not all transgender people identify as non-binary, and not all non-binary people identify as transgender. However, some people identify both as transgender and non-binary. As diverse as the gender spectrum is, providers often have limited understanding of the similarities and differences of trans and non-binary experiences and may conflate trans and non-binary patient experiences entirely (Sumerau & Mathers, 2019). This conflation in gender identities has severe consequences in trans and non-binary people's sexual and reproductive care.

For example, Johnson (2015) notes how trans and non-binary people must navigate accountability structures with medical authorities focused on the current medical model of transgender identity. The medical model of transgender identity is a standardized set of regulations that "limits what will or will not be recognized as transgender" and people who adopt this model receive medical recognition as someone with

trans identity (Sumerau & Mathers, 2019, p. 118). The medical model of transgender identity acts as an organized pathway for trans and non-binary people to access and undergo gender-affirming medical interventions, such as hormone therapies or gender-affirmation surgeries. Consequently, the failure to be medically recognized as trans places substantial barriers on non-binary populations seeking such services (Lampe, 2019). Some trans and non-binary patients may feel pressured by providers to receive gender-affirming medical interventions since the current medical model of trans identity is engrained in trans and non-binary health care and culture (Johnson, 2015). Providers should honor their trans and non-binary patients' unique care needs and goals throughout decision-making processes while providing quality care that may or may not be tied to trans-specific health services.

As part of our call to note the convergence and divergence in trans and non-binary patient experiences, we call for comprehensive data on how trans and non-binary patient needs may be similar and/or different using an array of methodological approaches. In so doing, providers can further understand how diverse, complex, and dynamic care needs are for trans and non-binary patients. Aside from patient narratives, the literature is very limited and at a simplified level in this area of research (Nowakowski, 2019). Likewise, trans and non-binary people managing chronic conditions have complex histories with their chronic conditions that may be influenced by a variety of social factors. Providers can understand the individual, interpersonal, and structural factors catalyzing chronicity for their patients if they first learn about their personal histories, biographies, and experiences with managing chronic conditions.

Navigating care systems

Although there is emerging literature on the sexual and reproductive care experiences among trans and non-binary people, few studies focus on how trans and non-binary patients managing chronic conditions navigate sexual and reproductive health care systems. Such studies emphasize, for example, how new opportunities in assisted reproduction

technologies (ARTs) improve the lives of trans and non-binary populations (Riggs, 2019) and the dynamics of embodiment among trans and non-binary people living with chronic disease (Nowakowski, 2019). There is a substantial need for diverse data sources and perspectives on trans and non-binary health care in general. Research highlighting trans and non-binary patient needs continue to have an underrepresentation of trans and non-binary patient living with chronic conditions (Nowakowski, Sumerau, & Lampe, 2020).

Whether we examine studies or commentaries - such as trans people accessing assisted reproduction services (James-Abra et al., 2015), trans men seeking prenatal care (Hoffkling et al., 2017), or the lactation and chestfeeding experiences of trans men (MacDonald et al., 2016) - existing research reveals why trans and non-binary people often experience unpleasant, stressful, or traumatic situations in sexual and reproductive care settings. By having gender diverse representation in the interdisciplinary health sciences, more providers can be equipped to adequately understand and care for trans and non-binary patients in amplification of their individual care needs and goals. Further, obtaining such data and perspectives often requires tremendous thoughtfulness and attention to participant experiences because of how stigmatized and marginalizing sexual and reproductive health care can be to begin with (Lampe, Carter, & Sumerau, 2019). As in other social settings, institutional erasure, stigma, and discrimination are just some of the negative outcomes trans and non-binary people can experience while receiving obstetrical and gynecological care (Hoffkling et al., 2017). Furthermore, trans and non-binary people managing chronic conditions can experience an extra layer of marginalization in sexual and reproductive health care settings due to these existing challenges.

Goal-directed services

Researchers are starting to expand scholarship in trans and non-binary health and medicine by exploring the health outcomes, management, disparities, and challenges transgender people face throughout the life course (Johnson, 2015;

Sumerau & Mathers, 2019). These studies suggest that stigma and cisgender people's lack of attention to the care needs of trans and non-binary populations negatively affect the health outcomes of such populations. Consequently, experiences of gender marginalization can be compound for trans and non-binary people that hold multiple stigmatized statuses in society (Nowakowski, Sumerau, & Lampe, 2020). However, there is a lack of targeted clinical interventions and other resources addressing the needs of trans and non-binary patients. Using our example from earlier, there is limited literature on the sexual and reproductive health implications of those who undergo hormone therapy sessions. By piloting intervention projects in this area of research, such gaps in knowledge can be filled while enhancing the quality of life of trans and non-binary populations. However, it is important to understand the unique care needs of trans and non-binary patients on a case-by-case basis since trans and non-binary people hold diverse attitudes about fertility preservation and assistance, pregnancy, and childbirth (Besse, Lampe, & Mann, 2020). Some trans and non-binary people want to have children someday and others want to be child-free. Grant agencies should expand funding opportunities for researchers and clinicians to conduct meaningful medical research and interventions while aiming to enhance the quality and delivery of such health services.

As the sexual and reproductive care experiences of trans and non-binary people gain visibility in society (Lampe, Carter, & Sumerau, 2019), we can also focus on the expansion of sexual and reproductive health care more broadly. Sexual and reproductive care are areas for tremendous innovation in clinical and interdisciplinary health sciences. Gender diversity and fluidity in sexual and reproductive care settings provides a unique opportunity to take historically gendered health care specialties and create a culture of gender affirmation among providers and care setting environments (Riggs et al., 2020). As such, data gathered from trans and non-binary populations using novel methodological approaches should provide a foundation for these advancements.

Finally, we recommend providing special opportunities for innovative research and

interventions for patient scientists to make a unique impact in paving the way for advancements in sexual and reproductive medicine. Patient scientists increasingly use their expertise and personal care experience to help capture richness and variation in sexual and reproductive care needs among underserved populations (Nowakowski, 2019). Such patient narratives can be utilized as resources in educating providers and researchers, while leaving a lasting impression in contemporary society (Nowakowski & Phillips, 2021). Trans and non-binary patient scientists have heavily contributed to the amplification of conducting research on gender-affirming care while recognizing the importance of meeting the needs and accomplishing the goals of trans and non-binary patients (Ashley, 2019). Other patient scientists have also highlighted some ways researchers and clinicians might think about health care through the perspectives of patients managing chronic conditions (Nowakowski, 2019). Overall, patient narratives are a powerful way to amplify trans and non-binary voices in sexual and reproductive health care, while providing new insights into addressing and correcting barriers to gender-affirming care.

Conclusion

In this review, we examine methodological approaches for exploring broad gaps in the sexual and reproductive health care needs of transgender and non-binary people managing chronic conditions. Such examples include how management for chronic conditions that are very common in trans and non-binary communities may intersect with both sexual and reproductive therapies themselves as well as transition care therapies. In so doing, we critically review methodological approaches for studying sexual and reproductive care and chronic condition management among trans and non-binary populations, while focusing on two major themes in the literature: unmet needs and response strategies. Specifically, we wrote this review to shed light on the importance of including trans and non-binary patients managing chronic conditions into conversations surrounding sexual and reproductive health care delivery, while outlining

recommendations for future research and intervention projects in such areas. Further, we focused on trans and non-binary patients who manage chronic conditions to illustrate the dynamics of the intersections of sexual, reproductive, and chronic care needs from the perspectives of trans and non-binary populations. As such, this review complements existing studies and notes an array of opportunities to fill substantial gaps in the literature, while amplifying the voices of trans and non-binary populations managing chronic conditions.

Note

1. We define sex and gender minority as transgender and non-binary people and people with intersex variations.

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ORCID

Nik M. Lampe  <http://orcid.org/0000-0003-1692-6740>
 Alexandra C. H. Nowakowski  <http://orcid.org/0000-0002-9072-2482>

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